

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A pneumatic component comprising:

—— ~~having~~ an airtight, elongated hollow body (1) made from flexible material, the hollow body being that is capable of being charged with compressed air;

—— ~~having~~ at least one compression member (2), extending along a surface line of the hollow body (1) and adjacent thereto for protection ~~that is protected~~ against displacement and bending; ~~also~~

—— ~~having~~ at least one pair of tractive elements (4), ~~which are secured at opposite the two ends of the at least one compression member (2), for which purpose wherein the at least one compression member (2) is furnished at opposite both ends thereof with a node (3) for reciprocal, non-positive attachment of the at least one compression member (2) and the at least one pair of the tractive elements (4) and for absorbing bearing forces;~~

wherein ~~additionally~~ the at least one pair of two tractive elements (4) are arranged so as to wind round the hollow body (1) at least once and in opposite directions and cross each other on the a surface line (7) of the hollow body (1) opposite to the at least one compression member; and (2);

~~characterised in that~~

—— ~~wherein means are integrated via which for electrically altering at least one of the operating parameters pressure in the hollow body (1), length of the compression member (2), or length of the tractive elements (4) may be altered electrically.~~

2. (Currently Amended) The pneumatic component as cited in claim 1, wherein ~~characterised in that~~ means are integrated for electrically altering via which pressure p₁ in the hollow body (1) ~~can be altered electrically.~~

3. The pneumatic component as cited in claim 2, further comprising: ~~characterised in that~~

—— ~~the hollow body (1) is furnished in the interior thereof with a gas impermeable, flexible bladder (12) with a smaller volume than that of the hollow body (1);~~

a gas-impermeable flexible bladder inside the hollow body, the bladder having a smaller volume than the hollow body;

—— a container for holding (9) that holds a volatile liquid, the container being (10) is installed inside the bladder; ~~(12);~~

—— a heat pump having (13) with reversible heat flow is adapted to heat or cool the volatile liquid;

~~direction is present, via which the liquid (10) can be heated or cooled, and wherein one side of the heat pump which is in thermal contact with the liquid (10) and another the other side of the heat pump is adapted to absorb or give off heat externally to the bladder; and which can exchange heat with the exterior outside of the bladder (12);~~

~~the wherein~~ a change in pressure can be brought about by electrothermal means with liquid amplification.

4. (Currently Amended) The pneumatic component as cited in claim 3, wherein ~~characterised in that~~

~~at least one electrical gas pressure sensor (14) is located inside the bladder (12).~~

5. (Currently Amended) The pneumatic component as cited in claim 4, wherein ~~characterised in that~~

~~the bladder (12) is produced from a flexible, low-expansion material.~~

6. (Currently Amended) The pneumatic component as cited in claim 4, ~~characterised in that wherein~~

~~the bladder (12) is made from an elastic material.~~

7. (Currently Amended) The pneumatic component as cited in claim 1, ~~characterised in that wherein~~

~~the at least one compression member (2) contains comprises~~ means for altering the length thereof electrically.

8. (Currently Amended) The pneumatic component as cited in claim 7, wherein ~~characterised in that~~

~~the means for altering the length of the at least one compression member (2) include includes~~ at least one actuator based on electroactive ceramic (EAC).

9. (Currently Amended) The pneumatic component as cited in claim 8, wherein ~~characterised in that~~

~~the at least one EAC actuator comprises used is a stack actuator (17), which is to say several wherein the stack actuator comprises a plurality of the EAC actuators (18) arranged in series.~~

10. (Currently Amended) The pneumatic component as cited in claim 1, wherein ~~characterised in that~~

~~the tractive element comprises (4) contains~~ means for altering the length thereof electrically.

11. (Currently Amended) The pneumatic component as cited in claim 10, wherein ~~characterised in that~~

~~the means for altering the length of the tractive element includes (4) include~~ at least one actuator based on electroactive polymers (EAP).

12. (Currently Amended) The pneumatic component as cited in claim 11, wherein
~~characterised in that~~

——the at least one actuator is made from multilayer EAP.

13. (Currently Amended) The pneumatic component as cited in claim 7 wherein either
~~of claims 7 or 10, characterised in that~~

——the means for altering ~~changing~~ the length ~~lengths~~ of the at least one compression member (2) and a length of a tractive element ~~elements~~ (4) are piezoelectric linear motors.

14. (Currently Amended) The pneumatic component as cited in ~~any of claims 7 to 13,~~
~~characterised in that~~ claim 7 wherein

——at least one sensor is present for measuring a ~~the~~ change in length of the at least one compression member (2) and a change in length of a the tractive element ~~elements~~ (4).

15. (Currently Amended) The pneumatic component as cited in claim 1 further
~~comprising: any of claims 4 to 6 or 14, characterised in that~~

——an electrical controlling and regulating circuit (23) ~~is present, which is connected to the~~ a plurality of sensors and actuators of the component; and

wherein the plurality of sensors and actuators help in monitoring and altering ;
~~and with the aid of which the operating parameters of the component can be monitored and altered.~~

16. (Currently Amended) The pneumatic component as cited in claim 1 wherein any of
~~claims 2 to 6 and 7 to 9, characterised in that~~

——means for electrically altering the pressure p_1 in the hollow body (4) and means for electrically altering the length of the compression member (2) ~~electrically~~ are present simultaneously.

17. (Currently Amended) The pneumatic component as cited in claim 1 wherein any of
~~claims 2 to 6 and 10 to 12, characterised in that~~

——means electrically for altering the pressure p_1 in the hollow body (4) and means for electrically altering the length of the tractive elements (4) ~~electrically~~ are present simultaneously.

18. (Currently Amended) The pneumatic component as cited in claim 2 wherein the any
~~of claims 2 to 6 and 7 to 9 and 10 to 12, characterised in that~~

——means for electrically altering the pressure p_1 in the hollow body (4), means for electrically altering the length of the compression member (2), and means for electrically altering the length of the tractive elements (4) ~~electrically~~ are present simultaneously.

19. (Currently Amended) The pneumatic component as cited in claim 3 wherein any of
~~claims 2 to 6,~~
~~characterised in that~~

——the bladder (12) is furnished with thermal insulation.

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20. (Currently Amended) The pneumatic component as cited claim 3 wherein ~~in any of
claims 2 to 6,~~
~~characterised in that~~

——the heat pump (13) is a Peltier element.